NATURAL RESOURCES CONSERVATION SERVICE
Wyoming
CONSTRUCTION SPECIFICATIONS
FOR
STREAMBANK PROTECTION
(Tree Revetment)

_____ _____
(Project/Title) (Owner/Operator

GENERAL

Tree revetment streambank protection shall be installed in accordance with a design and plan approved by the responsible technician. Details of construction shown in the design and plan but not included here shall be considered as a part of this specification. Construction activities shall be in accordance with applicable OSHA regulations and applicable stream alteration permits.

EXCAVATION AND SHAPING

Streambanks shall be sloped and shaped as shown on the drawings or staked in the field. Excavation for the toe of the revetment and anchoring shall be as shown on the drawings and staked in the field. Unless otherwise noted on the drawings existing streambank vegetation shall be protected except where its removal is absolutely necessary for the completion of the revetment work. All excavated material not used in construction shall be disposed of at sites above the ordinary high water line designated on the drawings or flagged in the field and approved by the Technician and Landowner.

CONSTRUCTION OPERATION

Site ingress and egress routes shall minimize the removal or destruction of riparian trees and shrubs. When specific routes are identified the Contractor shall avoid traveling over other areas.

Construction shall be done in accordance with the following procedures unless specific approval of other procedures has been given in the project specific stream alteration permit:

a. No construction equipment shall be operated below the existing water surface without specific approval except as follows: fording the stream at one location only will be permitted unless otherwise specified, however, vehicles and equipment will not be permitted to push or pull material along the streambed below the existing water level. Work below the water, which is essential for preparation of culvert bedding or approved footing installations shall be permitted to the extent that it does not create unnecessary turbidity or stream channel disturbance. Frequent fording will not be permitted in areas where extensive turbidity will be created.

b. Any temporary crossings, bridge supports, cofferdams, silt fences or other structures specified or needed during the period of construction shall be completely removed from the stream channel at the conclusion of construction and the area shall be restored to a natural appearance.

c. Care shall be taken to cause only the minimum necessary disturbance to the natural appearance of the area.

POLLUTION CONTROL

The Contractor shall take appropriate measures to minimize the chance of any oil or fuel spills from entering the stream. Equipment parking, maintenance and refueling will be away from the edge of the stream.

REVETMENT

Trees for revetments shall be complete with branches and free from decayed wood. Trees shall be installed with the basal end of the tree pointing upstream. Trees shall be of the species, size and length shown on the drawings or otherwise described.

Trees shall be overlapped and anchored to one another and to the bank/stream bottom as specified on the drawings. Anchors, anchor and tie cable and wire shall be of the type and size shown on the drawings. Cable/wire shall be galvanized unless otherwise shown on the drawings. The construction shall begin at the downstream end and proceed towards the upstream end of the revetment. Trees shall be tightly secured against the bank. Commercially fabricated anchors shall be installed in accordance with manufacturer recommendations.

LOOSE ROCK RIPRAP

When designated on the drawings rock for anchoring trees shall be placed to the lines and grades as shown on the drawings or staked in the field.

Placement of the rock on shall be done in a manner that will not cause separation of the small and large stones. The finished surface shall not have pockets of finer materials, which would flush out and weaken the protection. Sufficient hand placing and chinking shall be done to provide a tightly interlocked surface. Rock riprap gradation and weight shall be as specified in ADDITIONAL SPECIFICATIONS or as shown on the drawings. The middle rock dimension will be used in determining rock size. Unless otherwise specified the rock shall be angular to subangular in shape, sound, dense, and durable stone, and free from earth and rock dust, or other foreign material. The least dimension of the rock fragment shall be not less than one-third the greatest dimension of the rock fragment.

FILTER

Filter aggregate when specified on the drawings shall be spread uniformly on the prepared subgrade to the depth shown on the drawings. The filter shall be sand, gravel, or crushed stone or mixtures thereof. The gradation shall be as specified in ADDITIONAL SPECIFICATIONS or as shown on the drawings.

GEOTEXTILE FABRIC

Geotextile fabric when specified on the drawings shall be a non-woven fabric of the Class (weight) and Apparent Opening Size (AOS) as specified in ADDITIONAL SPECIFICATIONS or shown on the drawings.

VEGETATION

When specified on the drawings vegetative plantings shall be installed at the spacing, depth and of the size as shown on the drawings.

ADDITIONAL SPECIFICATIONS